

CV - Abhishek Tewari

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Research Area: Computational Materials Science, Materials Informatics, Oxide thermoelectrics, Halide perovskites.

ACADEMIC BACKGROUND

Degree	Period	University	Major
Ph.D.	2009 - 2013	EPFL, Switzerland	Materials Science & Engineering
M.Tech.	2007 - 2009	IIT Kanpur	Materials Science & Metallurgical Engg.
B.Tech.	2003 - 2007	IIT Kanpur	Materials Science & Metallurgical Engg.

RESEARCH AND PROFESSIONAL EXPERIENCE

Organization	Place	Designation	Period
IIT Roorkee	Roorkee	Assistant Professor	12/19 -
Shiv Nadar University	Greater Noida	Assistant Professor	04/19 - 12/19
COMSOL Multiphysics	Bangalore	Technical Sales Head	03/17 - 08/18
GLOBALFOUNDRIES	Bangalore	Principal Engineer	10/15 - 02/17
GLOBALFOUNDRIES	Singapore	Senior Engineer	03/15 - 09/15
EPFL	Switzerland	Postdoc	12/13 - 11/14

SPONSORED RESEARCH PROJECTS

Grant Name	Project Title	Start Date	Duration	Budget (INR)
SERB-Core Research Grant	Design, Fabrication and Characterization of Next Generation Functionally Graded Zinc Oxide (ZnO) for Thermoelectric Applications	January, 2023	3 years	44,00,00/-
SERB-Conference	3rd international conference on advances in materials and processing: challenges and opportunities-2022	-	-	3,00,000/-

DST-ICMAP	DST Materials MAP	25/03/2022	3 years	72,07,725/-
IIT Roorkee Faculty Initiation Grant	Computational Study of Ionic Transport in Halide Perovskites for Battery Applications	01/06/2021	2 years	19,50,000/-
SERB Start-up Research Grant	Designing nanostructured oxide thermoelectric materials to enhance hierarchical phonon scattering	04/01/2020	2.5 years	20,96,380/-

THESIS SUPERVISED

Student	Degree	Start Date	Status	Topic
Pranjul Bhatt	PhD	08/2021	Ongoing	Atomistic modeling of ionic transport and stability of perovskites
Navya Yadav	PhD	08/2020	Ongoing	Atomistic modeling of grain boundaries in ZnO
Ayush Kumar Pandey	PhD	12/2019	Ongoing	Development of machine learning potentials for classical MD simulations
Vishal Panwar	PhD	12/2018	Ongoing	Synthesis and characterization of nanostructured ZnO
Javeed A Dar	M.Tech.	08/2021	Completed	H ₂ adsorption on decorated graphene surfaces
Neha Garg	M.Tech.	07/2022	Ongoing	Dislocation strain ageing in Al-Mg alloys using MD simulations
Pranjul Bhatt	M.Tech.	07/2020	Completed	Halide perovskites for battery anodes
Farhang Nabiei	M.S.	01/2013	Completed	Dopant segregation in transparent alumina

AWARDS & RECOGNITION

- Felix scholarship for Graduate Studies at Oxford University UK (2009).
- Reviewer appreciation certificate from Journal of Alloys and Compounds (2021).
- Co-edited special issue of journal 'Open Ceramics' titled 'From powder to microstructure of ceramics' (2022).
- Invited talk in the international conference on Evolution of Electronic Structure Theory and Experimental Realization (EESTER-2023) organized at IIT Madras from 9-12 January, 2023..
- Reviewer for international journals: Wear, Journal of Physical Chemistry C, Journal of Materials Chemistry A, Journal of Alloys and Compounds, International Journal of Ceramic Engineering & Science, Computational Materials Science, Journal of the American Ceramic Society.

JOURNAL PUBLICATIONS

Google Scholar: <https://goo.gl/P8ZBBN>

1. N Yadav, N Chakraborty, **A Tewari**, Interval prediction machine learning models for predicting experimental thermal conductivity of high entropy alloys, *Computational Materials Science* 214 (2022), 111754.
2. A Deepa, **A Tewari**, Phase Transition Behaviour of Hydrated Glauber's Salt Based Phase Change Materials and the Effect of Ionic Salt Additives: A Molecular Dynamics Study, *Computational Materials Science* 203 (2022), 111112.
3. **A Tewari**, S Dixit, N Sahni, S.P.A. Bordas, "Machine learning approaches to identify and design low thermal conductivity oxides for thermoelectric applications", *Data Centric Engineering* 1 (2020). e8.
4. **A Tewari**, P Bowen, "Grain boundary Complexion and Transparent Polycrystalline Alumina from an Atomistic Simulation Perspective", *Current Opinion in Solid State and Materials Science* 20 (2016), 278-285 .
5. M Michálek, **A Tewari**, G Blugan, P Bowen, H Hofmann, T Graule, J Kuebler, "New Approach to Low Thermal Conductivity of Thermal Barrier Protection with improved mechanical integrity", *Ceramics International* 42 (2016), 6817-24.
6. **A Tewari**, F Nabiei, S C Parker, M Cantoni, M Stuer, P Bowen, C Hébert, "Towards Knowledge Based Grain Boundary Engineering of Transparent Polycrystalline Alumina Combining Advanced TEM and Atomistic Modeling", *Journal of the American Ceramic Society* 98 (2015), 1959-64.
7. **A Tewari**, U Aschauer, P. Bowen, "Atomistic modeling of effect of Mg on oxygen vacancy diffusion in α -alumina", *Journal of the American Ceramic Society* 97 (2014), 2596-2601.
8. **A Tewari**, F. Nabiei, M Cantoni, P Bowen, C Hebert, "Segregation of anion (Cl⁻) impurities at transparent polycrystalline α -alumina interfaces", *Journal of the European Ceramic Society* 34 (2014), 3037-45.
9. **A Tewari**, "Load dependence of oxidative wear in metal/ceramic tribocouples in fretting environment", *WEAR* 289 (2012), 95-103.
10. **A Tewari**, S Galmarini, M Stuer, P Bowen, "Atomistic modelling of the effect of codoping on the atomistic structure of interfaces in α -alumina", *Journal of the European Ceramic Society* 32 (2012), 2935-48.
11. F Bondioli, V Cannillo, A M Ferrari, **A Tewari**, "Synthesis and thermal stability of hydroxyapatite-coated zirconia nanocomposite powders", *Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry* 42 (2012), 128-134.
12. S Galmarini, U Aschauer, **A Tewari**, Y Aman, C Van Gestel, P Bowen, "Atomistic modelling of dopant segregation in α -alumina ceramics: coverage dependent energy of segregation and nominal dopant solubility", *Journal of the European Ceramic Society* 31 (2011), 2839-2852.
13. **A Tewari**, B Basu, R Bordia, "Model for fretting wear of brittle ceramics", *Acta Materialia* 57 (2009), 2080-87.
14. A Dubey, S D Gupta, R Kumar, **A Tewari**, B Basu, "Time constant determination for electrical equivalent of biological cells", *Journal of Applied Physics* 105 (2009), 084705-1-8.